Computer Science, PhD

Degree Requirements and Restrictions
The general requirements for the Ph.D. degree comply with those of the UAH Graduate School. The requirements include a preliminary examination, completion of coursework, a qualifying examination, completion of significant research documented in a dissertation, and the dissertation defense.

Major/Minor Subjects
A minimum of 54 hours of graduate course credit plus a minimum of 18 dissertation credit hours is required for the Ph.D. in Computer Science. The Program of Study (POS) will be approved by the student's supervisory committee. Coursework grade requirements are the same as for the M.S. degree. Coursework taken as part of a graduate degree program at another institution may be applied to the degree with permission of the student's Supervisory Committee.

The program must include the courses described below and must have a coherent area of emphasis, of which at least six credit hours must be at the 700 level. At least nine credit hours of graduate level mathematics must also be included in the program.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 524</td>
<td>PRINCIPLES PROGRAMMING LANG</td>
<td>3</td>
</tr>
<tr>
<td>CS 603</td>
<td>FORMAL LANG/AUTOMAT THRY</td>
<td>3</td>
</tr>
<tr>
<td>CS 613</td>
<td>COMPUTER ARCHITECTURES</td>
<td>3</td>
</tr>
<tr>
<td>CS 617</td>
<td>DES &amp; ANALY OF ALGORITHM</td>
<td>3</td>
</tr>
<tr>
<td>CS 650</td>
<td>SOFT’W ENGINEERING PROC</td>
<td>3</td>
</tr>
<tr>
<td>CS 690</td>
<td>ADVANCED OPERATING SYSTEMS</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Semester Hours</strong></td>
<td></td>
<td><strong>18</strong></td>
</tr>
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</table>

Additional Information

Preliminary Examination
Ph.D. students will be required to take a preliminary examination, consisting of (1) a written test covering fundamental concepts in Computer Science and (2) an evaluation by the graduate faculty of the student's overall academic potential.

The examination must be taken within a year after admission to the Ph.D. program, or at the earliest opportunity upon completion of the core coursework. Successful completion of the examination will provide evidence of the student's ability to continue in pursuit of the Ph.D. degree. The examination can be taken no more than twice.

Admission to Candidacy
To be admitted to candidacy for the Ph.D. degree, students must first pass the qualifying examination. The qualifying examination can cover any aspect of the student's program and is taken after completion of the student's coursework and upon recommendation of the student's supervisory committee. It is designed to test students' fitness for pursuing research projects in their chosen areas and to test their general knowledge of computer science. As part of the qualifying examination, each student will present a research proposal to the supervisory committee.

Residency Requirements
According to graduate school policy, residence may be established through either (i) being enrolled as a full-time student (at least nine graduate credit hours) either for one continuous academic year, or for Spring and Fall semesters in the same calendar year, or (ii) being enrolled in at least six hours of graduate course work in at least three of four consecutive semesters.

Grade Requirements
A grade of B or better must be earned in each of the core courses. No grade lower than C can be counted toward a Ph.D. Degree.

Courses Outside the Department
The following non-CS courses may be included in a CS Ph.D. program of study: any graduate level mathematics course, any graduate level computer engineering course, and ISE 526, ISE 690, and ISE 790. Those three ISE courses may be counted toward the Ph.D. mathematics requirement.

All non-CS courses must be approved by the Ph.D. advisor, and normally only three courses outside the Computer Science department may be included. Courses other than those listed above may not be included unless part of a cohesive area of study approved in advance by the Ph.D. advisor and the dissertation committee.
Other Requirements for the PhD Degree

- The program must be completed within five years after admission to candidacy.
- The Qualifying Examination may be taken no more than twice.
- CS 799 is required each semester a student is receiving direction on the doctoral dissertation.

For additional requirements, consult the Academic Information (http://catalog.uah.edu/grad/academic-info/) Section of this Graduate Catalog.

Dissertation

A public defense of the dissertation is required. Three conference papers or one journal article related to the dissertation work must be published or accepted prior to scheduling the dissertation defense.